United States Department of the Interior Bureau of Land Management Royal Gorge Field Office 3028 E. Main Street Cañon City, CO 81212

## **Environmental Assessment**

## El Rancho Bondo Placer Mining Plan of Operations Modification

DOI-BLM-CO-F02-2014-0001 EA

March 2015



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#### **CHAPTER 1 - INTRODUCTION**

#### 1.1 IDENTIFYING INFORMATION

CASEFILE/PROJECT NUMBER (optional): COC075265 / DOI-BLM-CO-F02-2014-001 EA

PROJECT TITLE: El Rancho Bondo Placer Mining Plan of Operations Modification

PLANNING UNIT: Arkansas River Subregion #1

LEGAL DESCRIPTION: Fremont County, T.18S, R.71 W, Sec. 18 W1/2SW1/4NE1/4 and

W1/2NW1/4SE1/4

APLLICANT: Thomas Zimmerman

45871 W. US Highway 50 Canon City, CO 81212

#### 1.2 INTRODUCTION AND BACKGROUND

<u>BACKGROUND:</u> This EA has been prepared by the BLM to analyze a modification to the existing Plan of Operations on a claim (CMC278502) in Parkdale, CO. The current claimant, who is also the operator, has submitted a modification to the existing plan of operations, proposing to:

- 1. Develop additional resources to the west,
- 2. Utilize additional motorized equipment,
- 3. Stage a steel locker onsite (which is a proposed occupancy), and
- 4. Resolve some aspects of the operation that were not adequately addressed within the existing authorized Plan of Operations, such as size of material handled and timeframes for work to be conducted.

#### 1.3 PURPOSE AND NEED

The operator has submitted a modification to our office and requested authorization and concurrence to proceed under the Mining Law and pertinent regulations, 43 CFR 3809 and 43 CFR 3715.

#### 1.4 DECISION TO BE MADE

This EA will analyze the proposed El Rancho Bondo Placer Mining Plan of Operations modification to determine the following:

- 1. Will the proposed action result in significant impacts that would warrant preparation of an Environmental Impact Statement?
- 2. If the proposed action will cause unnecessary or undue degradation, what actions will be required of the operator to mitigate this?
- 3. In addition, BLM needs to analyze the proposed occupancy, as outlined in Section 3.2.2, in order to understand if requirements under 43 CFR 3715 (Use and Occupancy Under the Mining Laws) will be met.

Decisions the Plan of Operations modification authorization and concurrence/non-concurrence of the occupancy proposal will be documented separately from this Environmental Assessment.

#### 1.5 PLAN CONFORMANCE REVIEW

<u>PLAN CONFORMANCE REVIEW</u>: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: Royal Gorge Resource Management Plan

Date Approved: 05/13/1996

<u>Decision Number/Page</u>: 1-40 &1-41/2-1-8

Decision Language: 1-40: Areas will be open to mineral entry and available for mineral

materials development.

1-41: Areas will be open to mineral entry and available for mineral materials development under standard mineral operating practices.

In January 1997, the Colorado State Office of the BLM approved the Standards for Public Land Health and amended all RMPs in the State. Standards describe the conditions needed to sustain public land health and apply to all uses of public lands.

<u>Standard 1</u>: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes.

<u>Standard 2</u>: Riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance such as fire, severe grazing, or 100-year floods.

<u>Standard 3</u>: Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential.

<u>Standard 4</u>: Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.

<u>Standard 5</u>: The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will achieve or exceed the Water Quality Standards established by the State of Colorado.

Because standards exist for each of these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in Chapter 3 of this document.

#### 1.6 SCOPING, PUBLIC INVOLVEMENT AND ISSUES

**1.5.1 Scoping:** NEPA regulations (40 CFR §1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal

goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis. In addition, the Mining Plan of Operations modification document is subject to review and public comment, per 43 CFR 3809 and is therefore included with this document as Appendix A.

<u>Persons/Public/Agencies Consulted</u>: The Royal Gorge FO posted the Draft EA on the FO's NEPA website to initiate the public scoping process. This effort launched the public scoping process in an attempt to identify potential issues associated with the proposed action. A public notice was also sent to the local Canon City Daily Record and Mountain Mail papers. The issues identified are summarized below.

<u>Issues Identified:</u> Colorado Parks and Wildlife expressed agency concerns and observations of Cumulative Impacts of placer activity and high banking on the larger Arkansas River in total when this action was presented for their input. Gold seeking disturbances from related activities are readily observable by CPW staff while they conduct their river management activities. Additionally, CPW expressed that public users, such as the anglers and boaters of the Arkansas River do not readily distinguish between mining law regulated activities such as this action, and recreational activities where smaller scale digging is left un-reclaimed throughout the upper Arkansas River corridor (lands managed under the Arkansas Headwater Recreation area). CPW states their agency receives numerous comments from angry river users about mining activity, regardless of the intent or authorization.

#### **CHAPTER 2 - PROPOSED ACTION AND ALTERNATIVES**

#### 2.1 INTRODUCTION

The purpose of this chapter is to provide information on the Proposed Action and Alternatives. Alternatives considered but not analyzed in detail are also discussed.

#### 2.2 ALTERNATIVES ANALYZED IN DETAIL

#### 2.2.1 Proposed Action

The Proposed Action is to modify the types of operations currently authorized under the Plan of Operations. The current Plan of Operations (Appendix 1) permits 4-wheeler access to the claim along an old road and high banking operations on the west side of the Arkansas River, 0.3 miles south of Parkdale. Operations occur within 50 feet of the river's edge and involve a pump (3 ½ hp motor) and a 1.5 inch hose that pumps water up to a sluice box. Material is hand shoveled into the sluice box for processing. The Plan states that this type of operation will be conducted between April 1<sup>st</sup> and September 30<sup>th</sup> each year. Reclamation includes conservation of topsoil, refilling holes and revegetating the surface using hand tools. Additional details are available in the approved Plan of Operations, included as Appendix B.

#### **Proposed Modifications to Mining Plan**

The proposed modifications include:

1. Change the timing of operations-

The operator has proposed to work year round using both motorized and non-motorized equipment. More specifically the operator would work anywhere from two days to several days a week, as weather permits.

#### 2. Change the type of equipment-

The operator's original modification included suction dredging. On February 26, 2014, the operator removed this proposal from the modification. High banking operations will continue using a pump no more than 8 horsepower and an intake no larger than 3 inches in diameter. Settling ponds will continue to be utilized to prevent direct runoff into the river.

Additional digging (small amounts along the working face) and moving of larger materials may also occur. A small tractor (excavator) will be used to maintain (not modify) the existing road, aid in site development and reclamation.

#### 3. Extension of the work area to the west-

The operator would like to extend the current work area from a 20-foot width by 100-foot length to a 100-125-foot width by 175-200-foot length, or maximum of about 0.60 acres. This would place the high banking work area at a distance of 100-feet from the river's edge, with the overall work area edge at a minimum of 20-feet from the river's edge. The work areas will occur on a bench that was created by stream deposits containing a matrix of sandy soil mixed with cobbles and boulders. The working face would be laterally worked in a north-south direction, with mining advancing to the west and the worked area being filled in, or reclaimed, as the operation advanced. Therefore, the 0.60 acres would not all be disturbed at the same time.

This deposit pinches out in every direction and is replaced by naturally piled cobbles, bedrock and the river to the east. Working faces under the current Plan of Operations are located near the top of this terrace about 10-12 feet vertically above the river's edge (during low flow) and are expected to be outside the reach of a major flood event, as well as the strip of riparian area along the river's edge. As mining continues under this modification the work areas will be further removed from potentially flood prone areas, due to the advancement moving away from the river. As mining progresses, material will be removed along the west scarp, processed and placed behind the working face to the east. Working faces are estimated to range in dimensions of 100'Lx20'Wx1'D to 150'Lx36'Wx20'D. It will likely take 1-2 years for the scarp to move back (to the west) a few feet.

#### **Additional Information Regarding the Reclamation Plan**

As mining progresses and processed material to the east is no longer being disturbed, reclamation of those areas will be conducted within 1-2 years. A small excavator, limited by the size of the current road (approximately 60-inches), is proposed for periodic use to remove the topsoil from work areas on the terrace in preparation for hand-digging operations. This topsoil, which is very sandy, will continue to be stockpiled on the southwest side of the site and used for

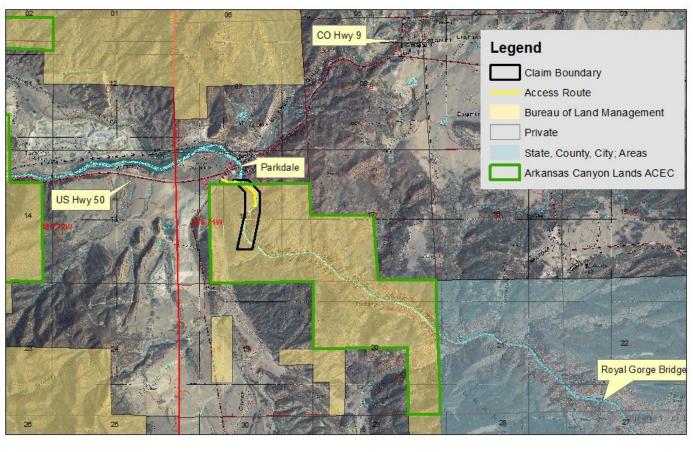
reclamation, when removed by the small equipment (when hand digging is occurring, all material is worked through the sluice together and stockpiling does not occur).

Present vegetation is dominated by Russian thistle and cacti, as shown in Figure 3. Little to no riparian vegetation is present in the proposed work area, as shown in Figure 4. The small tractor equipment may be used during reclamation to fill holes and apply topsoil. Hand tools will continue to be used for filling and shaping reclamation as well.

#### **Proposed occupancy**

The operator would also like to stage a temporary, weather resistant, steel locker (tool chest) that will not be larger than 4' x 4' x 8' to store equipment securely on site. It is proposed that the locker would be located on the western edge of the proposed work area at the base of the hill in a place behind big boulders, in order to reduce its visibility. It is proposed that gasoline and other petroleum products used in motorized operations may be stored in this unit as well as equipment that will be used daily. The locker will be located a minimum of 100-feet from the edge of the river and will stay onsite for the remaining life of the mine and will be removed during final reclamation. It will be secured with a heavy duty lock.

In addition, the small tractor may be left on site overnight while in use, but will be removed from the site during times of non-use.





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Bureau of Land Management
as to the accuracy, reliability,
or completeness of the data
layers shown on this map. The
official land records of the data
providers should be checked
or current status on any
specific tract of land.

Figure 1. Location Map

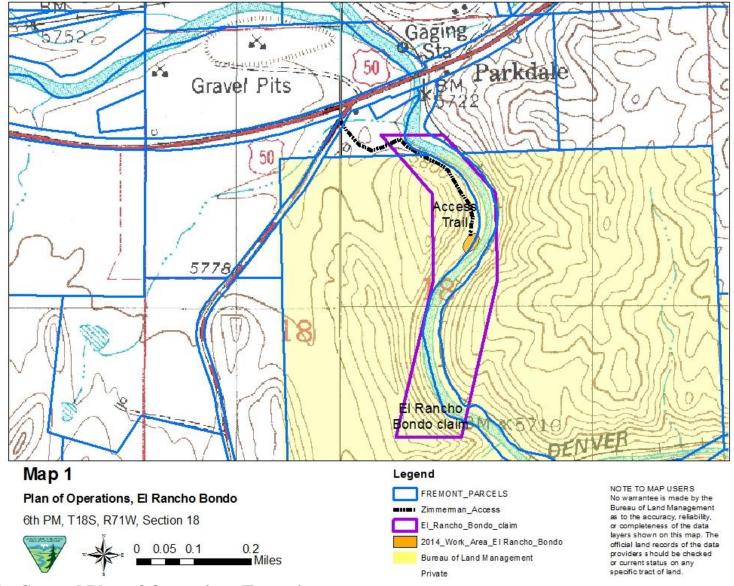


Figure 2. General Plan of Operations Footprint



Figure 3. Looking northeast at general site vegetation



Figure 4. Looking southwest at existing work area vegetation

#### **2.2.2** No Action Alternative

Under the General Mining Law of 1872, and within the framework of 43 CFR 3809, the BLM is limited to denying the Plan of Operations only if it has been determined that the proposed action will result in Undue or Unnecessary Degradation (UUD), as defined under 43 CFR 3809.5. In the case of the El Rancho Bondo Plan of Operations modification and at the onset of the NEPA process, it does not appear that operations proposed would result in UUD. Therefore the possibility of denying this Plan of Operations modification can't be determined until after the NEPA evaluation process is complete and it can be concluded that UUD could not be prevented through mitigation or otherwise. In addition, current mining taking place under the approved Plan of Operations will continue, irrespective of the proposed modification approval.

#### 2.2.3 Alternatives

None.

# 2.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL None.

#### CHAPTER 3 - AFFECTED ENVIRONMENT AND EFFECTS

#### 3.1 INTRODUCTION

This section provides a description of the human and natural environmental resources that could be affected by the Proposed Action and presents comparative analyses of the direct, indirect and cumulative effects on the affected environment stemming from the implementation of the actions under the Proposed Action and other alternatives analyzed.

#### 3.1.1 Interdisciplinary Team Review

The following table is provided as a mechanism for resource staff review, to identify those resource values with issues or potential impacts from the proposed action and/or alternatives. Those resources identified in the table as impacted or potentially impacted will be brought forward for analysis.

Resource	Initial and date	Comment or Reason for Dismissal from Analysis
Air Quality Ty Webb, Chad Meister, Melissa Hovey	TW, 2/7/14	No impacts are foreseen to air quality within the area.
Geology/Minerals Stephanie Carter, Melissa Smeins	SSC, 8/27/14	No significant impact to geology/minerals is anticipated. See Section 3.2.1 (Geology/Minerals) for a brief description of geology and analysis of possible occupancy under the Mining Law.
Soils John Smeins	JS, 12/3/14	See Affected Environment, Soils Section 3.2.3.

Resource	Initial and date	Comment or Reason for Dismissal from Analysis	
Water Quality Surface and Ground John Smeins	JS, 12/3/14	See Affected Environment, Water Section 3.2.4.	
Invasive Plants John Lamman	JL, 07/14/2014	See Affected Environment.	
T&E and Sensitive Species Matt Rustand	MR, 11/18/2014	No direct impacts to T&E species and/or their habitat anticipated. See Affected Environment for resource background.	
Vegetation Jeff Williams, Chris Cloninger, John Lamman	JL, 07/14/2014	See Affected Environment.	
Wetlands and Riparian Dave Gilbert	DG 11/24/14	See Affected Environment.	
Wildlife Aquatic Dave Gilbert	DG 11/24/14	See Affected Environment.	
Wildlife Terrestrial Matt Rustand	MR, 11/18/2014	See Affected Environment.	
Migratory Birds Matt Rustand	MR, 11/18/204	See Affected Environment.	
Cultural Resources Monica Weimer, Michael Troyer	7/9/14	Two cultural resources inventories in the area of potential effect located no historic properties (see Reports CR-RG-01-39 P and CR-RG-14-124 N). Therefore, no additional work is required.	
Native American Religious Concerns Monica Weimer, Michael Troyer	7/9/14	No possible traditional cultural properties were located during the cultural resources inventory (see above). There is no other known evidence that suggests the project area holds special significance for Native Americans.	
Economics Dave Epstein, Martin Weimer	mw, 3/2/15	This action will not result in significant impacts to the socio economics of individuals or the region.	
Paleontology Melissa Smeins, Stephanie Carter	SSC, 8/27/14	The geology in this area is not likely to contain recognizable paleontological resources and therefore this project will not have an adverse impact.	
Visual Resources John Nahomenuk	MW 3/5/15	No additional impacts to visual resources from the proposed action.	
Environmental Justice Martin Weimer	mw, 3/2/15	The proposed action affects an area that is rural in nature. The adjacent land is open rangeland, as a result, there are no minority or low-income populations in or near the project area. As such, the proposal will not have a disproportionately high or adverse environmental effect on minority or low-income populations.	
Wastes Hazardous or Solid Stephanie Carter	SSC, 10/20/14	Based on information provided, no significant impact resulting from wastes is anticipated.	
Recreation John Nahomenuk	JN 12/10/14	Recreation can continue to occur on the mining claim. The occasional angler may fish from the claim location. Whitewater rafters pass by the claim but typically do not stop at the mining location since they just	

Resource	Initial and date	Comment or Reason for Dismissal from Analysis
		launched 5 minutes prior to reaching the mining location.
Farmlands Prime and Unique Jeff Williams, Chris Cloninger, John Lamman	JL, 07/14/2014	Not unique and prime farmlands present.
Lands and Realty Rich Rotte	RAR, 11/12/14	No approved or pending rights of way in the project area other than the Master Title Plat has a recorded rail-road (C093736) across the -river from the project area. This case was authorized under the Act of June 8, 1872. The BLM has no jurisdiction over the surface within the right of way.
Wilderness, WSAs, ACECs, Wild & Scenic Rivers John Nahomenuk	JN 12/10/14	There is no Wilderness, WSAs, or Wild and Scenic values present. No direct impacts to the designated ACEC is anticipated. See Affected Environment for resource background.
Wilderness Characteristics John Nahomenuk	JN 07/29/14	The small amount of public lands associated with the location of the mining area precludes the presence of Wilderness characteristics.
Range Management Jeff Williams, Chris Cloninger, John Lamman	JL, 07/14/2014	No livestock grazing present.
Forest Management Ken Reed	KR 3/4/2014	No impacts to forest management or forest health.
Cadastral Survey Jeff Covington	JC 7/15/2014	Section 18 was dependently resurveyed in 1983. The GCDB point reliability around the project is +/- 10 ft. The C-N 1/16 section corner of section 18 falls within the project area and will need to be located and protected.
Noise Martin Weimer	mw, 3/2/15	This action will not result in any increased noise levels above what is produced by the current operation.
Fire Ty Webb	TW 6/01/2014	No increased potential for fires due to the proposed action.
Law Enforcement Steve Cunningham	mw for SC	There are no law enforcement issues associated with this action.

The affected resources brought forward for analysis include:

- Geology/Minerals
- Soils
- Water Quality
- Invasive Plants
- Vegetation

- Wetlands and Riparian
- Wildlife Aquatic
- Wildlife Terrestrial
- Migratory Birds
- Visual Resources

## 3.2 PHYSICAL RESOURCES

#### 3.2.2 GEOLOGIC AND MINERAL RESOURCES

#### Affected Environment:

The proposed action is located within the same small-scale bench placer deposits as the existing operation. This deposit consists of sand, gravel and cobbles that have been deposited by the river over time.

The operator is proposing to stage a temporary, weather resistant, steel locker (tool chest) that will not be larger than 4' x 4' x 8' to store equipment securely on site. It is proposed that the locker would be located on the western edge of the proposed work area at the base of the hill. The locker will stay onsite for the remaining life of the mine and will be removed during final reclamation. It will also be secured with a heavy duty lock.

In addition, the tractor or backhoe may be left on site overnight while in use, but will be removed from the site during times of nonuse.

#### **Environmental Effects**

Proposed Action

Direct and Indirect Impacts: The proposed action includes the staging of a locker and mine equipment, which may constitute occupancy under the Mining Law of 1872, as defined under 43 CFR 3715.0-5.

Per 43 CFR 3715.0-5, Occupancy means full or part-time residence on the public lands. It also means activities that involve residence; the construction, presence, or maintenance of temporary or permanent structures that may be used for such purposes; or the use of a watchman or caretaker for the purpose of monitoring activities. Residence or structures include, but are not limited to, barriers to access, fences, tents, motor homes, trailers, cabins, houses, buildings, and storage of equipment or supplies.

Per 43 CFR 3715.2, activities that are the reason for an operator's occupancy must:

- 1. Be reasonably incident;
- 2. Constitute substantially regular work;
- 3. Be reasonably calculated to lead to the extraction and beneficiation of minerals;
- 4. Involve observable on-the-ground activity that BLM may verify under § 3715.7; and
- 5. Use appropriate equipment that is presently operable, subject to the need for reasonable assembly, maintenance, repair or fabrication of replacement parts.

Per 43 CFR 3715.2-1, in addition to the requirements specified in part 3715.2, the occupancy must involve one or more of the following:

- 1. Protecting exposed, concentrated or otherwise accessible valuable minerals from theft or loss;
- 2. Protecting from theft or loss appropriate, operable equipment which is regularly used, is not readily portable, and cannot be protected by means other than occupancy;
- 3. Protecting the public from appropriate, operable equipment which is regularly used, is not readily portable, and if left unattended, creates a hazard to public safety;
- 4. Protecting the public from surface uses, workings, or improvements which, if left unattended, create a hazard to public safety; or
- 5. Being located in an area so isolated or lacking in physical access as to require the mining claimant, operator, or workers to remain on site in order to work a full shift of a usual and customary length. A full shift is ordinarily 8 hours and does not include travel time to the site from a community or area in which housing may be obtained.

Protective/Mitigation Measures: The proposal appears to meet all requirements of 43 CFR 3715.2 and meets items #2 and #3 of 43 CFR 3715.2-1. Therefore, no additional measures are needed.

Cumulative Impacts: Not applicable.

No Action Alternative

Direct and Indirect Impacts: None Protective/Mitigation Measures: None

#### 3.2.3 SOILS (includes a finding on standard 1)

#### Affected Environment:

The proposed project area lies on a largely upland bench adjacent to the Arkansas River. Due to the small nature of the bench, the exact soil type has not been mapped. Based on the current digging at the site, the soil appears to be relatively well developed with a well-defined A horizon that is approximately 4 inches deep and consists of a fine sandy loam. This is followed by a B horizon that is a well-developed sandy silt that is approximately 8 inches deep. These two layers are likely to be alluvium and/or eolian deposits. Below these upper soil layers is a deep alluvial deposit of poorly sorted cobbles, gravels and sands that is the target of the existing operation, as well as the proposed modification. The Proposed Action calls for separating and stockpiling topsoil until it is used for reclamation. Ultimately, the proponent is responsible for successful reclamation of the site showing that soil productivity is comparable to the pre-mining condition. A successful reclaimed site will be comparable to the pre-disturbed site as long as ecological processes are functioning within a normal range of variability and the native plant community meets the expected functional/structural groups and composition.

These soils are well drained and generally dry with the water table being approximately at river level. Due to the sandy nature of the soil, it is highly susceptible to both wind and water erosion.

#### **Environmental Effects**

Proposed Action

Direct and Indirect Impacts: The Proposed Action would essentially remove the topsoil (approximately 12 inches) from 0.6 acres and process the material underneath by hydraulically sorting the gold out of the alluvium. This process totally destroys the soil structure and disrupts the soil organisms and processes. Due to the nature of the action it is imperative that both interim reclamation and final reclamation be done properly in order to return the site to its predisturbed condition.

In order to preserve the functionality of the soils, the topsoil needs to be separated and stockpiled until it is used for reclamation. Then at the time of reclamation the soil would need to be placed back in the order it was removed, thereby keeping the original A, B, and C horizons. In order to do this, more than one soil stockpile would be needed, i.e. one for the A and one for the B horizons. Due to the sorting process that the C horizon would undergo, replicating the same manner of sorting in this horizon would be extremely difficult. In the C horizon, the fine material would likely be difficult to recover in the same manner as the larger material. This could leave voids and a different density of material under the topsoil resulting in changed water holding capacity and root growth medium.

Overall, the Proposed Action would impact up to 0.6 acres of soils until reclamation is considered complete. In the long term, after reclamation is considered complete, the soils would be essentially similar to their current condition.

#### Protective/Mitigation Measures:

- Performance expectations for the established vegetation will be based on an optimum ground cover of 40% for the native seed mixture suggested in section 3.3.3 Vegetation (not including annuals), understanding that this is an ideal situation given that current vegetation conditions are not meeting these specifications. In addition, successful reclamation will include stable soil conditions at natural background erosional rates.
- On any slopes that are greater than 3:1, excelsior matting is suggested to be installed following the manufacturer's installation instructions to reduce erosion rates on disturbed soils.
- In order to maintain as much topsoil as possible and in addition to the upgradient Stormwater controls to be installed as described in the Plan of Operations modification, it is suggested that downhill portions of the soil stockpiles have controls installed also, such as straw wattles or silt fencing to prevent soil from leaving the disturbed area.

Cumulative Impacts: At the larger watershed scale along the Arkansas River, the Proposed Action would add an additional 0.6 acres of disturbance spread out over several years. Along the river there are many other existing soil disturbances such as highways, recreation sites, and home sites. The addition of this disturbance with mitigation would not appreciably add to the overall area.

No Action Alternative

Direct and Indirect Impacts:

Current mining taking place under the approved Plan of Operations with associated impacts, will continue, irrespective of the proposed modification approval.

Protective/Mitigation Measures: None

Finding on the Public Land Health Standard for Upland Soils:

A site specific evaluation of the area has not been conducted; however the nature of the Proposed Action would essentially make the soils not meet standards during operations. Upon successful reclamation, soils would be anticipated to meet standards.

# 3.2.4 WATER (SURFACE AND GROUNDWATER, FLOODPLAINS) (includes a finding on standard 5)

#### Affected Environment:

The Proposed Action takes place on a bench directly adjacent to the Arkansas River. The lower toe of the project area is likely near the flood stage level of the river; however, floodplain mapping of the site is at a course scale and the exact flood level is difficult to determine. It is possible that the 100 year flood level is within the proposed area; however, due to the topography of the site it doesn't exhibit floodplain characteristics. Historic and present mining has cast material down on a frequently inundated lower bench and high flow has transported material from the site.

Water quality in the Arkansas River at this location is good and is not identified as being impaired by the State of Colorado. Historically, the water quality in the river has been heavily impacted by heavy metals due to historic mining in the headwaters areas, mainly around Leadville. Over the last 30 years tremendous improvements have been made to improve the water quality throughout the watershed. Groundwater with the proposal is associated with the alluvial aquifer along the river. At this site, this aquifer is very narrow and is very closely hydrologically connected to the river. Essentially, near groundwater and surface water are identical in this location.

#### **Environmental Effects**

**Proposed Action** 

Direct and Indirect Impacts: Water usage and impacts from the proposal would be two fold. First, the proposal would pump water out of the Arkansas River using a pump that would be capable of using approximately 150 gallons per minute. The water would then flow through a sluice draining into a settling basin before reentering the river. The material being worked is alluvial in nature and not expected to introduce any new or elevated levels of constituents into the river. The settling pond would keep most sediment from entering the river. The second impact would be the physical disturbance of the site. The removal of vegetation and soil disturbance leads to increased runoff and sediment transport. If the site is not reclaimed properly, this impact could persist for a long period of time. This is mainly a concern during high intensity rain events as runoff could transport sediment into the river, however any precipitation could transport sediments into the river. The implementation of proper stormwater controls, interim reclamation and final reclamation are essential to mitigating this impact.

Overall, with mitigation, the Proposed Action would have little impact on water quality in either the short term or long term. In addition, this operation modification may require further

permitting from the State of Colorado under the Clean Water Act in the form of a 401 certification, NPDES, or other permit. The operator is required to obtain any other permits necessary before beginning work. These permits would further ensure water quality is protected.

#### Protective/Mitigation Measures:

- The site must be maintained in such a way that soil stays within the work area and does not leave the perimeter of the disturbance or enter the river. Mitigation outlined in the Soils section (3.2.3) should be sufficient to accomplish this. In the case it is not, the proponent will take corrective action to ensure this criteria is being met.
- The site and all associated mitigations shall be monitored by the proponent at least monthly. Corrective actions shall be completed immediately to remedy any occurrence of soil leaving the disturbed perimeter or excessive erosion.

Cumulative Impacts: At the larger watershed scale along the Arkansas River, the Proposed Action would add an additional .6 acres of disturbance spread out over several years that could result in increased sedimentation. Along the river there are many other potential water quality impacts such as mining, highways, recreation sites, and home sites. The addition of this disturbance with mitigation would not appreciably add to any water quality concerns in the overall area.

#### No Action Alternative

Direct and Indirect Impacts: Current mining taking place under the approved Plan of Operations with associated impacts, will continue, irrespective of the proposed modification approval.

Protective/Mitigation Measures: None

Finding on the Public Land Health Standard for Water Quality: The Arkansas River at this location is currently meeting Public Land Health Standards for Water Quality. The Proposed Action would not be expected to result in the river to no longer meet standards.

## 3.3 BIOLOGICAL RESOURCES

#### 3.3.1 INVASIVE PLANTS\*

#### Affected Environment:

Invasive plants are common in the area due to historical grazing and mining practices and the native plant community has been altered. The ecological sites that make up the project site are prone to a variety of weed infestations if soil surface disturbance occurs. Invasive plants within 10 miles of the project area include but are not limited to: dalmation toadflax, yellow toadflax, diffuse knapweed, Russian knapweed, myrtle spurge, perennial pepperweed, tamarisk, leafy spurge, white top, musk thistle, Russian thistle, cholla cactus, Scotch thistle, Kochia, and Canada thistle. As stated in the Plan of Operations modification, monitoring will be conducted for the life of the project and until successful reclamation is complete as described in the Plan of Operations modification and mitigation included in the Soils section 3.2.3.

#### **Environmental Effects**

#### **Proposed Action**

Direct and Indirect Impacts: Due to the total removal of the A and B soil horizons and slope of the project area, maintaining soil stability and productivity for revegetation will be a challenge.

#### Protective/Mitigation Measures:

- The monitoring and mitigation of weeds as described in the Plan of Operations modification should focus on the presence of weeds on the Colorado State Noxious Weed list and other invasives, as listed above.
- All mulch brought on site shall be certified weed free straw mulch. Straw must not be either rye or barley and cannot contain cheat grass seed (Bromus Tectorum seed).
- All seed used shall be certified weed free.

Cumulative Impacts: Due to the many dry washes and other drainages that empty into the Arkansas River in the area, impacts for the project will be a minor part of total cumulative impacts.

\*Invasive plants are plants that are not part of (if exotic), or are a minor component of (if native), the original plant community or communities that have the potential to become a dominant or co-dominant species on the site if their future establishment and growth are not actively controlled by management interventions, or are classified as exotic or noxious plants under state or federal law. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants.

#### 3.3.2 THREATENED, ENDANGERED AND SENSITIVE SPECIES

#### Affected Environment:

The habitat type is primarily pinyon pine and juniper. Open areas of mountain grassland are interspersed throughout the area and mountain shrubs such as currant and mountain mahogany are abundant. Three sensitive species could occur in the area: peregrine falcon, golden eagle and bald eagle. The Arkansas River corridor contains numerous cliffs that are suitable for nesting peregrines and golden eagles.

Bald eagles could be expected to occur along the Arkansas River during the winter months. Delisting of the bald eagle became effective August 8, 2007, however it is still protected by the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act. The Bald and Golden Eagle Protection Act prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16U.S.C 668(a); 50 CFR 22). "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" a bald or golden eagle. The term "disturb" under the Bald and Golden Eagle Protection Act was recently defined via a final rule published in the Federal Register on June 5, 2007 (72 Fed. Reg.31332). "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Peregrine falcons could also be expected to forage along the river corridor during the breeding season. There are several breeding cliffs in the upper Arkansas River valley; however, there are no nesting sites in the vicinity of the project area.

#### **Environmental Effects**

#### Proposed Action

Direct and Indirect Impacts: Peregrine and Golden Eagles nest within the Royal Gorge and Bighorn Sheep Canyon and Bald Eagles use the river corridor in the winter; however, no known nest sites are located within two miles of the project area; therefore, impacts to these species is expected to be minimal.

Protective/Mitigation Measures: None.

Cumulative Impacts: Recent interest in both recreational mineral specimen collection and mining activity under the Mining Law has increased on the Arkansas River creating additional disturbances to obligate riparian wildlife species and stream-banks. Activities proposed here are cumulative to those other disturbances and activities, such as fishing, park development and rafting activities, along the Arkansas River corridor.

#### No Action Alternative

Direct and Indirect Impacts: None Protective/Mitigation Measures: None

Finding on the Public Land Health Standard for Threatened & Endangered species: The proposed action will have no effect on the public land health standards for T&E species.

#### 3.3.3 VEGETATION (includes a finding on standard 3)

#### Affected Environment:

Potential vegetation in the project area includes blue grama, Indian ricegrass, needlegrasses, sand dropseed, mountain mahogany, and Gambel oak in the dry uplands and willow species along the river. While some of these species are present in the project area, due to historic livestock grazing and mining, the dry uplands are in a poor vegetative condition and contain a large amount of Russian thistle and cheat grass. In the absence of further disturbance the site would be expected to transition to the natural background conditions overtime. The area mined relatively recently is a mix of river cobble and sand that has no top soil and supports very little vegetation.

#### **Environmental Effects**

#### **Proposed Action**

Direct and Indirect Impacts: The Proposed Action would temporarily remove the soil and associated vegetation from the area. Due to the steep slopes in the area of planned work it will be difficult to keep excavated material from tumbling down onto streamside riparian margins and entering the Arkansas river during extreme flows. Establishment of preferred native vegetation will require detailed planning and monitoring.

• Protective/Mitigation Measures: The recommended seed mixture and rate is as follows:

Western Wheatgrass	Pascopyrum smithii	8 lbs/ac
Blue Grama	Bouteloua gracilis	2 lbs/ac
Sideoats Grama	Bouteloua curtipendula	6 lbs/ac
Indian Ricegrass	Achnatherum hymenoides	8 lbs/ac
Sand Dropseed	Sporobolus cryptandrus	2 lbs/ac
Bottlebrush Squirreltail	Elymus elymoides	4 lbs/ac
Columbia Needlegrass	Achnatherum nelsonii spp.	4 lbs/ac
Mountain Mahogany	Cercocarpus montanus	1 lb/ac
Wax Current	Ribes cereum	.5 lb/ac
	Total	35.5 lbs/ac

• All seed must be noxious weed free and meet certified seed quality. Seed must have a valid seed test within one year of being applied.

Cumulative Impacts: Due to the many dry washes and other drainages that empty into the Arkansas River in the area, impacts for the project will be a minor part of total cumulative impacts.

Finding on the Public Land Health Standard for Plant and Animal Communities: A formal health assessment in this area included an assessment of the "health" of public land in relation to Standards for Public Land Health. The interdisciplinary land health evaluations indicated that on a landscape scale the area is meeting applicable standards for public land health. A site specific evaluation of the project area indicates that it is not at or moving towards desired condition.

#### 3.3.4 WETLANDS & RIPARIAN ZONES (includes a finding on standard 2)

#### Affected Environment:

By proximity, this action involves an area directly adjacent to a segment of the west bank of the Arkansas River leading into the Royal Gorge, downstream of the Parkdale, Highway 50 bridge crossing. Swift flows, rock stream banks and rocky hill-slopes has limited soil deposition along the banks of the Arkansas River in this location so that riparian vegetation in the vicinity is either non-existent, or only along a narrow margin in areas with slight soil development. Soils deposited in some spots however have allowed for a rooted plant community of willow, occasional trees, and some herbaceous riparian plant species. Most trees near the project area are actually evergreen, not riparian species, but cottonwood and alder occur in the vicinity. As proposed in the modified Pan of Operations (PoO) the new action avoids riparian areas, however historic and present mining has cast material down on flood-prone riparian areas and high flow has transported material from the site. Due to this activity being directly adjacent to the Arkansas River corridor riparian obligate wildlife species could be affected.

#### **Environmental Effects**

#### Proposed Action

Direct and Indirect Impacts: Work under the modified PoO is not planned within the riparian area, however due to the steep slopes in the area of planned work it will be difficult to keep excavated material from tumbling down onto the streamside riparian margin and entering the Arkansas River. During extreme flows, materials entering the riparian area are prone to erosion. In addition, as shown in this document's photographs and related to existing operations at this location at some point in time, cast material has entered flood prone areas and some material has washed. Modern activity generated spoils still remain as shown in photos. Historic activity, slightly upstream created similar dumping, however that activity is abandoned and unrelated to this action but would be cumulative to this disturbance. Due to the length of time since the upstream disturbance, wetland species have grown through dumped materials. Similar activity is not planned for the downstream mining. Under the new PoO, native material excavated upslope of the riparian zone will leave more volume than geologic sorting did. Given the larger exposed volumes of material, planed altered slope angles, and reduced site vegetation, increased erosion during primarily high precipitation events in the May through September rain seasons is possible. Isolated thunderstorms produce heavy rains in short periods of time and naturally create overland flow. Very short duration overland flow carrying silts which would enter the riparian vegetation and the Arkansas River as turbidity will be difficult to control. If eroded materials reach the stream banks or river unnecessary impact would occur.

#### Protective/Mitigation Measures:

- The PoO states plans to plant vegetation in the riparian area as mitigation to offset recently cast material from previous activity. However, if cast material is planned for removal from flood prone areas, the proponent is responsible to coordinate these activities with the ACOE, as applicable.
- If the planned constructed settling basins do not contain all pumped waters allowing it to soak in, then the mine proponent would need to consult with the State of Colorado as to the possible need for a NPDES discharge permit.

Cumulative Impacts: Recent rise in gold prices and interest in both recreational mineral specimen collection and mining activity under the Mining Law has increased on the Arkansas River creating additional disturbances to obligate riparian wildlife species and stream-banks. Activities proposed here are cumulative to those other disturbances and activities, such as fishing, park development and rafting activities, and the other activities along the Arkansas River corridor.

#### No Action Alternative

Direct and Indirect Impacts: Current mining taking place under the approved Plan of Operations with associated impacts, will continue, irrespective of the proposed modification approval.

#### Protective/Mitigation Measures: None

Finding on the Public Land Health Standard for Riparian Systems: Following the Modified PoO with the protective mitigations measures documented in this analysis will insure that this Public Land Standard is achieved during the life of the mine, but with all functions returning after

acceptance of final reclamation relative to all riparian functions such as also providing wildlife habitat.

#### 3.3.5 WILDLIFE AQUATIC (includes a finding on standard 3)

#### Affected Environment:

See also Wetland and Riparian section 3.3.4. The Arkansas River is a popular brown trout fishery with extremely high visitation by anglers from Colorado's Front Range cities and other locations. Both shore and float fishing occur on this river. Near river side channel aquatic habitat is virtually non-existent by way of backwaters, sloughs, wetland areas, etc. in this location as the Arkansas River is very incised in rock with only limited riparian margins. The area does not support habitat for amphibians local to the area in the close proximity to the proposed action but there are breeding sites close by both up and downstream.

#### **Environmental Effects**

Proposed Action

Direct and Indirect Impacts: As planned and discussed, material to be excavated will be kept out of the riparian areas and out of the river. In practice, some material has entered the water and has added upslope material to the stream environment beyond natural levels. If all future material is kept from entering the Arkansas River including stormwater induced erosion, then there is no measurable impact to the aquatic habitat of the Arkansas River, only the interaction to angling along the banks of the public land given the ongoing operations. However, if settling ponds are still going to be used for pumped water used in the operations and that water does not entirely re-enter the Arkansas River sub-surface, then a slight stream of possibly turbid water may appear. Pumped water containing macroinvertebrates or young of the year fish could occur, but the scale of impact to the larger river would be extremely small and can be mitigated by screening the suction intake. Return flows from pumping if they do now completely settle in the constructed settling basins may require an NPDES permit as regulated by the State of Colorado and would be the responsibility of site operators. Under the new PoO native material excavated upslope of the riparian zone will leave more volume than geologic sorting did. Given the larger exposed volumes of material, planed altered slope angles, and reduced site vegetation, increased erosion during primarily high precipitation events in the May through September rain seasons is possible. Isolated thunderstorms produce heavy rains in short periods of time and naturally create overland flow. Very short duration overland flow carrying silts which would enter the riparian vegetation and the Arkansas River as turbidity will be difficult to control. If eroded materials reach the stream banks or river unnecessary impact would occur (see precautions in riparian section 3.3.4)

#### Protective/Mitigation Measures:

- The Modified PoO has more recent cast material being removed from flood prone areas which is necessary to sustain watershed functions, but is also necessary under Section 404 laws as administered by the Army Corps of Engineers (ACOE). The proponent is responsible to coordinate these activities with the ACOE, as applicable. The PoO plans to plant vegetation in the riparian as mitigation to offset recently cast material
- If the planned constructed settling basins do not contain all pumped waters allowing it to soak in, then the mine proponent would need to consult with the

State of Colorado as to the possible need for a NPDES discharge permit. All equipment used in this proposed operation should be clean on initial arrival, and if it leaves the site cleaned before reuse to minimize the spread of aquatic nuisance species.

Cumulative Impacts: Recent rise in gold prices and interest in both recreational mineral specimen collection and mining activity under the Mining Law has increased on the Arkansas River creating additional disturbances to obligate riparian wildlife species and stream-banks. Activities proposed here are cumulative to those other disturbances and activities, such as fishing, park development and rafting activities, and the other activities along the Arkansas River corridor.

#### No Action Alternative

Direct and Indirect Impacts: Current mining taking place under the approved Plan of Operations with associated impacts, will continue, irrespective of the proposed modification approval.

Protective/Mitigation Measures: None

Finding on the Public Land Health Standard for Plant and Animal Communities: This is a small and localized action, but the life of the project is proposed through the year 2025. There would be no impact at a reasonable scale evaluation from this action, but reclamation as discussed in the PoO would be important to sustain the overall health of the Arkansas River fisheries because over the life of this proposed operation modification many other perturbations to the river will occur.

#### 3.3.6 WILDLIFE TERRESTRIAL (includes a finding on standard 3)

#### Affected Environment:

The habitat present consists of piñon-juniper/shrub mix. This habitat type is the most prevalent in the resource area. While the number of terrestrial species that occupy this habitat is great, the analysis focuses on mega-fauna that have the potential to be impacted the greatest by the proposed action.

Mule deer populations for this area are currently below Colorado Parks and Wildlife objectives. Being a successional species, deer rely on pre-climax habitat conditions. As the trend since the early 1900s has been towards more stability and approaching climax vegetative conditions, the ability of the habitat to support deer has declined. The primary causes of this trend in habitat conditions are thought to result from the elimination of wildfire from the forests, the encroachment of forest cover in formerly open grassland and shrubland habitats, and the improved soil and range management that has resulted in more stable grasslands. All these factors are to the detriment of the forb and shrub components, which are important parts of the deer diet.

The Merriam's turkey is a fairly common resident in foothills and mesas of southern Colorado. The Merriam's turkey is common in the assessment area in suitable habitat. Merriam's are found primarily in ponderosa pine forests with an understory of Gambel's oak. Tall pines are used during all seasons for roosting. In the assessment area it is often found in foothill shrublands (mountain mahogany) and piñon-juniper woodlands.

Black bear, mountain lion, bobcat and other meso-carnivores among others likely inhabit the project area sporadically. Home ranges of these species can be very large resulting in a small probability of occupancy at any one time.

#### **Environmental Effects**

#### Proposed Action

Direct and Indirect Impacts: Species mentioned above may be seen or their sign identified within the project boundary. The project action will be the 0.6 acres of ground disturbed by the proposed mining operation modification and an additional buffer area that will be impacted by noise and human presence. The proposed action will cause a temporary loss of existing habitat, including mule deer winter range, due to excavation.

Indirectly habitat will be lost during operation hours due to noise, vehicle traffic and human presence near the boundary of the project area. Indirect losses may be substantially larger than the direct loss (Sawyer et al. 2006). However, the additional acreage is difficult to quantify because species react and adapt differently to anthropogenic features and activity. The action area is currently being impacted by noise due to existing operations and it is likely wildlife present has become habituated to this impact.

Protective/Mitigation Measures: None.

Cumulative Impacts: Recent rise in gold prices and interest in both recreational mineral specimen collection and mining activity under the Mining Law has increased on the Arkansas River creating additional disturbances to obligate riparian wildlife species and stream-banks. Activities proposed here are cumulative to those other disturbances and activities, such as fishing, park development and rafting activities, and the other activities along the Arkansas River corridor.

No Action Alternative

Direct and Indirect Impacts: None Protective/Mitigation Measures: None

Finding on the Public Land Health Standard for Plant and Animal Communities: The proposed action will have no effect on the public land health standards for plant and animal communities.

#### 3.3.7 MIGRATORY BIRDS

#### Affected Environment:

The action area occurs within a riparian corridor that is not dissimilar to many others in the area. The yellow warbler is the species most commonly found in deciduous foothills riparian systems followed by American robin, northern flicker, house wren, warbling vireo, song sparrow, western wood-pewee, and broad-tailed hummingbird.

The habitat type is primarily pinyon pine and juniper. Open areas of mountain grassland are interspersed throughout the area and mountain shrubs such as gambel oak, currant and mountain mahogany are abundant, especially on south slopes. Pinyon-juniper habitat supports the largest nesting bird species list of any upland vegetation type in the West. The richness of the pinyon-juniper vegetation type, however, is important due to its middle elevation. Survey

tallies in pinyon-juniper are similar in species diversity to the best riparian. Several species are found in the pinyon-juniper habitat and include: black-chinned hummingbird, gray flycatcher, Cassin's kingbird, gray vireo, pinyon jay, juniper titmouse, black-throated gray warbler, Scott's oriole, ash-throated flycatcher, Bewick's wren, mountain chickadee, white-breasted nuthatch, and chipping sparrow.

A unique feature present to this area is the cliff complexes that are located along the Arkansas River that provide the proper substrate for cliff nesting species. There is a known golden eagle and peregrine falcon nest site located within one mile of the project area.

#### **Environmental Effects**

#### Proposed Action

Direct and Indirect Impacts: Species mentioned above may be seen or their sign identified within the project boundary during any season of the year. The project action will affect lands within the proposed designated area due to habitat removal while additional acreage outside the designated area will likely be vacated due to human presence and noise (Gilbert and Chalfoun 2011). Species richness of newly impacted habitat will decrease as bird species not tolerant to noise avoid the area (Francis et al. 2009). However, the additional acreage affected due to noise and human presences is difficult to quantify because species react and adapt differently to anthropogenic features and activity. The action area is already being impacted by noise due to existing operations.

Protective/Mitigation Measures: To be in compliance with the Migratory Bird Treaty Act (MBTA) and the Memorandum of Understanding between BLM and USFWS required by Executive Order 13186, BLM must avoid actions, where possible, that result in a "take" of migratory birds. Pursuant to BLM Instruction Memorandum 2008-050, to reduce impacts to Birds of Conservation Concern (BCC), no habitat disturbance (removal of vegetation such as timber, brush, or grass) is recommended during the periods of May 15 - July 15, the breeding and brood rearing season for most Colorado migratory birds. This recommendation will not apply to completion activities in disturbed areas that were initiated prior to May 15 and continue into the 60-day period. We suggest a pre-treatment survey when possible during the May15-July 15 time frame and including best management practices if necessary.

An exception to this timing limitation will be granted if nesting surveys conducted no more than one week prior to vegetation-disturbing activities indicate no nesting within 30 meters (100 feet) of the area to be disturbed. Surveys shall be conducted by a qualified breeding bird surveyor between sunrise and 10:00 a.m. under favorable conditions.

Cumulative Impacts: Recent rise in gold prices and interest in both recreational mineral specimen collection and mining activity under the Mining Law has increased on the Arkansas River creating additional disturbances to obligate riparian wildlife species and stream-banks. Activities proposed here are cumulative to those other disturbances and activities, such as fishing, park development and rafting activities, and the other activities along the Arkansas River corridor.

#### No Action Alternative

Direct and Indirect Impacts: Current mining taking place under the approved Plan of Operations with associated impacts, will continue, irrespective of the proposed modification approval.

Protective/Mitigation Measures: None

#### 3.5 LAND RESOURCES

#### 3.5.3 AREAS OF CRITICAL ENVIRONMENTAL CONCERN,

Affected Environment: The Arkansas Canyonlands Area of Critical Environmental Concern (23,200 acres) was found to meet the relevance and importance criteria. The scenic, historic and cultural values, endangered peregrine falcons, key raptor habitat area, bighorn sheep and fisheries were important factors considered in making this area an ACEC.

#### **Environmental Effects**

#### Proposed Action

Direct and Indirect Impacts: There would be no direct or indirect impacts associated with the mining associated with the proposed modification at this location. Those special values identified for the Arkansas Canyon Lands ACEC would not be discernably impacted.

Protective/Mitigation Measures: No protective or mitigation measures are required.

Cumulative Impacts: Cumulative impacts may result if additional mining operations are approved within the ACEC. Although, these impacts would be mitigated once reclamation is complete.

#### No Action Alternative

Direct and Indirect Impacts: None Protective/Mitigation Measures: None

#### 3.6 CUMULATIVE IMPACTS SUMMARY

Recent rise in gold prices and interest in both recreational mineral specimen collection and mining activity under the Mining Law has increased on the Arkansas River creating additional disturbances to obligate riparian wildlife species and stream-banks. Activities proposed here are cumulative to those other disturbances and activities, such as fishing, park development and rafting activities, and the other activities along the Arkansas River corridor.

#### Soils

At the larger watershed scale along the Arkansas River, the Proposed Action would add an additional .6 acres of disturbance spread out over several years that could result in increased sedimentation. Along the river there are many other potential water quality impacts such as mining, highways, recreation sites, and home sites. The addition of this disturbance with mitigation would not appreciably add to any water quality concerns in the overall area.

## **CHAPTER 4 - CONSULTATION AND COORDINATION**

## 4.1 LIST OF PREPARERS AND PARTICIPANTS

Please see Interdisciplinary Team Review list for BLM Participants

## 4.2 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

Colorado Parks and Wildlife, Greg Policky, Salida Area Office Fisheries Biologist

## **CHAPTER 5 - REFERENCES**

Bureau of Land Management (BLM). 1996. Royal Gorge Resource Area Resource Management Plan and Record of Decision. Front Range District. Canon City, Colorado.

BLM. 2001. NEPA Document - CO-200-2001-054 EA

BLM. 2008 H-1790-1 National Environmental Policy Handbook. Washington, D.C.

BLM. 2012. NEPA Document - CO-200-2012-050 DN

# Finding Of No Significant Impact (FONSI)

#### DOI-BLM-CO-200-2014-0001 EA

Based on review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects from any alternative assessed or evaluated meet the definition of significance in context or intensity, as defined by 43 CFR 1508.27. Therefore, an environmental impact statement is not required. This finding is based on the context and intensity of the project as described below:

#### RATIONALE:

<u>Context</u>: The proposed action is to modify an existing Plan of Operations on a claim (CMC278502) located in Parkdale, CO. This action was selected as the most viable alternative, given the analysis conducted with the EA effort and the determination that undue or unnecessary degradation will be prevented. The current claimant, who is also the operator, has submitted a modification to the existing plan of operations, in order to develop additional resources to the west, utilize motorized equipment and resolve some aspects of the operation that were not adequately addressed within the existing authorized Plan of Operations.

Total disturbance will not exceed 0.6 acres, reclamation will be concurrently implemented as mining progresses. The period of operation is anticipated to end in January 2025.

#### **Intensity**:

I have considered the potential intensity/severity of the impacts anticipated from the El Rancho Bondo Placer Mining Plan of Operations Modification decision relative to each of the ten areas suggested for consideration by the CEQ. With regard to each:

#### Impacts that may be beneficial and adverse:

- 1. Geology/Mineral Resources
  - a. Impacts: The proposed action includes the staging of a locker and mine equipment, which may constitute occupancy under the Mining Law of 1872, as defined under 43 CFR 3715.0-5.

Per 43 CFR 3715.0-5, Occupancy means full or part-time residence on the public lands. It also means activities that involve residence; the construction, presence, or maintenance of temporary or permanent structures that may be used for such purposes; or the use of a watchman or caretaker for the purpose of monitoring activities. Residence or structures include, but are not limited to, barriers to access, fences, tents, motor homes, trailers, cabins, houses, buildings, and storage of equipment or supplies.

Per 43 CFR 3715.2, activities that are the reason for an operator's occupancy must:

- 6. Be reasonably incident;
- 7. Constitute substantially regular work;
- 8. Be reasonably calculated to lead to the extraction and beneficiation of minerals:
- 9. Involve observable on-the-ground activity that BLM may verify under § 3715.7; and
- 10. Use appropriate equipment that is presently operable, subject to the need for reasonable assembly, maintenance, repair or fabrication of replacement parts.

Per 43 CFR 3715.2-1, in addition to the requirements specified in part 3715.2, the occupancy must involve one or more of the following:

- 6. Protecting exposed, concentrated or otherwise accessible valuable minerals from theft or loss:
- 7. Protecting from theft or loss appropriate, operable equipment which is regularly used, is not readily portable, and cannot be protected by means other than occupancy;
- 8. Protecting the public from appropriate, operable equipment which is regularly used, is not readily portable, and if left unattended, creates a hazard to public safety;
- 9. Protecting the public from surface uses, workings, or improvements which, if left unattended, create a hazard to public safety; or
- 10. Being located in an area so isolated or lacking in physical access as to require the mining claimant, operator, or workers to remain on site in order to work a full shift of a usual and customary length. A full shift is ordinarily 8 hours and does not include travel time to the site from a community or area in which housing may be obtained.
- b.Protective/Mitigation Measures: The proposal appears to meet all requirements of 43 CFR 3715.2 and meets items #2 and #3 of 43 CFR 3715.2-1. Therefore, no additional measures are needed.

#### 2. Soils

a. Impacts: The Proposed Action would essentially remove the topsoil (approximately 12 inches) from 0.6 acres and process the material underneath by hydraulically sorting the gold out of the alluvium. This process totally destroys the soil structure and disrupts the soil organisms and processes. Due to the nature of the action it is imperative that both interim reclamation and final reclamation be done properly in order to return the site to its pre-disturbed condition.

In order to preserve the functionality of the soils, the topsoil needs to be separated and stockpiled until it is used for reclamation. Then at the time of reclamation the soil would need to be placed back in the order it was removed, thereby keeping the original A, B, and C horizons. In order to do this, more than one soil stockpile would be needed, i.e. one for the A and one for the B horizons. Due to the sorting process that the C horizon would undergo, replicating the same manner of sorting in this horizon would be extremely difficult. In the C horizon, the fine material would likely be difficult to recover in the same manner as the

larger material. This could leave voids and a different density of material under the topsoil resulting in changed water holding capacity and root growth medium.

Overall, the Proposed Action would impact up to 0.6 acres of soils until reclamation is considered complete. In the long term, after reclamation is considered complete, the soils would be essentially similar to their current condition.

#### b. Protective/Mitigation Measures:

- i. Performance expectations for the established vegetation will be based on an optimum ground cover of 40% for the native seed mixture suggested in section 3.3.3 Vegetation (not including annuals), understanding that this is an ideal situation given that current vegetation conditions are not meeting these specifications. In addition, successful reclamation will include stable soil conditions at natural background erosional rates.
- ii. On any slopes that are greater than 3:1, excelsior matting is suggested to be installed following the manufacturer's installation instructions to reduce erosion rates on disturbed soils.
- iii. In order to maintain as much topsoil as possible and in addition to the upgradient Stormwater controls to be installed as described in the Plan of Operations modification, it is suggested that downhill portions of the soil stockpiles have controls installed also, such as straw wattles or silt fencing to prevent soil from leaving the disturbed area.

#### 3. Water (Surface and Groundwater, Floodplains)

a. Impacts: Water usage and impacts from the proposal would be two fold. First, the proposal would pump water out of the Arkansas River using a pump that would be capable of using approximately 150 gallons per minute. The water would then flow through a sluice draining into a settling basin before reentering the river. The material being worked is alluvial in nature and not expected to introduce any new or elevated levels of constituents into the river. The settling pond would keep most sediment from entering the river. The second impact would be the physical disturbance of the site. The removal of vegetation and soil disturbance leads to increased runoff and sediment transport. If the site is not reclaimed properly, this impact could persist for a long period of time. This is mainly a concern during high intensity rain events as runoff could transport sediment into the river, however any precipitation could transport sediments into the river. The implementation of proper stormwater controls, interim reclamation and final reclamation are essential to mitigating this impact.

Overall, with mitigation, the Proposed Action would have little impact on water quality in either the short term or long term. In addition, this operation modification may require further permitting from the State of Colorado under the Clean Water Act in the form of a 401 certification, NPDES, or other permit. The operator is required to obtain any other permits necessary before beginning work. These permits would further ensure water quality is protected.

#### b. Protective/Mitigation Measures:

i. The site must be maintained in such a way that soil stays within the work area and does not leave the perimeter of the disturbance or enter the river.

- Mitigation outlined in the Soils section (3.2.3) should be sufficient to accomplish this. In the case it is not, the proponent will take corrective action to ensure this criteria is being met.
- ii. The site and all associated mitigations shall be monitored by the proponent at least monthly. Corrective actions shall be completed immediately to remedy any occurrence of soil leaving the disturbed perimeter or excessive erosion.

#### 4. Invasive Plants

- a. Impacts: Due to the total removal of the A and B soil horizons and slope of the project area, maintaining soil stability and productivity for revegetation will be a challenge.
- b. Protective/Mitigation Measures:
  - i. The monitoring and mitigation of weeds as described in the Plan of Operations modification should focus on the presence of weeds on the Colorado State Noxious Weed list and other invasives, as listed above.
  - ii. All mulch brought on site shall be certified weed free straw mulch. Straw must not be either rye or barley and cannot contain cheat grass seed (Bromus Tectorum seed).
  - iii. All seed used shall be certified weed free.

#### 5. Threatened, Endangered and Sensitive Species

- a. Impacts: Peregrine and Golden Eagles nest within the Royal Gorge and Bighorn Sheep Canyon and Bald Eagles use the river corridor in the winter; however, no known nest sites are located within two miles of the project area; therefore, impacts to these species is expected to be minimal.
- b. Protective/Mitigation Measures: None

#### 6. Vegetation

- a. Impacts: The Proposed Action would temporarily remove the soil and associated vegetation from the area. Due to the steep slopes in the area of planned work it will be difficult to keep excavated material from tumbling down onto streamside riparian margins and entering the Arkansas river during extreme flows. Establishment of preferred native vegetation will require detailed planning and monitoring.
- b. Protective/Mitigation Measures:

The recommended seed mixture and rate is as follows:

Western Wheatgrass	Pascopyrum smithii	8 lbs/ac
Blue Grama	Bouteloua gracilis	2 lbs/ac
Sideoats Grama	Bouteloua curtipendula	6 lbs/ac
Indian Ricegrass	Achnatherum hymenoides	8 lbs/ac
Sand Dropseed	Sporobolus cryptandrus	2 lbs/ac
Bottlebrush Squirreltail	Elymus elymoides	4 lbs/ac
Columbia Needlegrass	Achnatherum nelsonii spp.	4 lbs/ac
Mountain Mahogany	Cercocarpus montanus	1 lb/ac
Wax Current	Ribes cereum	.5 lb/ac
M	Total	35.5 lbs/ac

ust be noxious weed free and meet certified seed quality. Seed must have a valid seed test within one year of being applied.

#### 7. Wetlands & Riparian Zones

a. Impacts: Work under the modified PoO is not planned within the riparian area, however due to the steep slopes in the area of planned work it will be difficult to keep excavated material from tumbling down onto the streamside riparian margin and entering the Arkansas River. During extreme flows, materials entering the riparian area are prone to erosion. In addition, as shown in this document's photographs and related to existing operations at this location at some point in time, cast material has entered flood prone areas and some material has washed. Modern activity generated spoils still remain as shown in photos. Historic activity, slightly upstream created similar dumping, however that activity is abandoned and unrelated to this action but would be cumulative to this disturbance. Due to the length of time since the upstream disturbance, wetland species have grown through dumped materials. Similar activity is not planned for the downstream mining. Under the new PoO, native material excavated upslope of the riparian zone will leave more volume than geologic sorting did. Given the larger exposed volumes of material, planed altered slope angles, and reduced site vegetation, increased erosion during primarily high precipitation events in the May through September rain seasons is possible. Isolated thunderstorms produce heavy rains in short periods of time and naturally create overland flow. Very short duration overland flow carrying silts which would enter the riparian vegetation and the Arkansas River as turbidity will be difficult to control. If eroded materials reach the stream banks or river unnecessary impact would occur.

#### b. Protective/Mitigation Measures:

- i. The PoO states plans to plant vegetation in the riparian area as mitigation to offset recently cast material from previous activity. However, if cast material is planned for removal from flood prone areas, the proponent is responsible to coordinate these activities with the ACOE, as applicable.
- ii. If the planned constructed settling basins do not contain all pumped waters allowing it to soak in, then the mine proponent would need to consult with the State of Colorado as to the possible need for a NPDES discharge permit.

#### 8. Wildlife Aquatic

a. Impacts: As planned and discussed, material to be excavated will be kept out of the riparian areas and out of the river. In practice, some material has entered the water and has added upslope material to the stream environment beyond natural levels. If all future material is kept from entering the Arkansas River including stormwater induced erosion, then there is no measurable impact to the aquatic habitat of the Arkansas River, only the interaction to angling along the banks of the public land given the ongoing operations. However, if settling ponds are still going to be used for pumped water used in

the operations and that water does not entirely re-enter the Arkansas River sub-surface, then a slight stream of possibly turbid water may appear. Pumped water containing macroinvertebrates or young of the year fish could occur, but the scale of impact to the larger river would be extremely small and can be mitigated by screening the suction intake. Return flows from pumping if they do now completely settle in the constructed settling basins may require an NPDES permit as regulated by the State of Colorado and would be the responsibility of site operators. Under the new PoO native material excavated upslope of the riparian zone will leave more volume than geologic sorting did. Given the larger exposed volumes of material, planed altered slope angles, and reduced site vegetation, increased erosion during primarily high precipitation events in the May through September rain seasons is possible. Isolated thunderstorms produce heavy rains in short periods of time and naturally create overland flow. Very short duration overland flow carrying silts which would enter the riparian vegetation and the Arkansas River as turbidity will be difficult to control. If eroded materials reach the stream banks or river unnecessary impact would occur (see precautions in riparian section 3.3.4)

#### b. Protective/Mitigation Measures:

- i. The Modified PoO has more recent cast material being removed from flood prone areas which is necessary to sustain watershed functions, but is also necessary under Section 404 laws as administered by the Army Corps of Engineers (ACOE). The proponent is responsible to coordinate these activities with the ACOE, as applicable. The PoO plans to plant vegetation in the riparian as mitigation to offset recently cast material
- ii. If the planned constructed settling basins do not contain all pumped waters allowing it to soak in, then the mine proponent would need to consult with the State of Colorado as to the possible need for a NPDES discharge permit. All equipment used in this proposed operation should be clean on initial arrival, and if it leaves the site cleaned before reuse to minimize the spread of aquatic nuisance species.

#### 9. Wildlife Terrestrial

a. Impacts: Species mentioned above may be seen or their sign identified within the project boundary. The project action will be the 0.6 acres of ground disturbed by the proposed mining operation modification and an additional buffer area that will be impacted by noise and human presence. The proposed action will cause a temporary loss of existing habitat, including mule deer winter range, due to excavation. Indirectly habitat will be lost during operation hours due to noise, vehicle traffic and human presence near the boundary of the project area. Indirect losses may be substantially larger than the direct loss (Sawyer et al. 2006). However, the additional acreage is difficult to quantify because species react and adapt differently to anthropogenic features and activity. The action area is currently being

impacted by noise due to existing operations and it is likely wildlife present has become habituated to this impact.

b. Protective/Mitigation Measures: None

#### 10. Migratory Birds

- a. Impacts: Species mentioned above may be seen or their sign identified within the project boundary during any season of the year. The project action will affect lands within the proposed designated area due to habitat removal while additional acreage outside the designated area will likely be vacated due to human presence and noise (Gilbert and Chalfoun 2011). Species richness of newly impacted habitat will decrease as bird species not tolerant to noise avoid the area (Francis et al. 2009). However, the additional acreage affected due to noise and human presences is difficult to quantify because species react and adapt differently to anthropogenic features and activity. The action area is already being impacted by noise due to existing operations.
- b. Protective/Mitigation Measures: To be in compliance with the Migratory Bird Treaty Act (MBTA) and the Memorandum of Understanding between BLM and USFWS required by Executive Order 13186, BLM must avoid actions, where possible, that result in a "take" of migratory birds. Pursuant to BLM Instruction Memorandum 2008-050, to reduce impacts to Birds of Conservation Concern (BCC), no habitat disturbance (removal of vegetation such as timber, brush, or grass) is recommended during the periods of May 15 July 15, the breeding and brood rearing season for most Colorado migratory birds. This recommendation will not apply to completion activities in disturbed areas that were initiated prior to May 15 and continue into the 60-day period. We suggest a pre-treatment survey when possible during the May15-July 15 time frame and including best management practices if necessary.

An exception to this timing limitation will be granted if nesting surveys conducted no more than one week prior to vegetation-disturbing activities indicate no nesting within 30 meters (100 feet) of the area to be disturbed. Surveys shall be conducted by a qualified breeding bird surveyor between sunrise and 10:00 a.m. under favorable conditions.

#### 11. Areas of Critical Environmental Concern

- a. Impacts: There would be no direct or indirect impacts associated with the mining associated with the proposed modification at this location. Those special values identified for the Arkansas Canyon Lands ACEC would not be discernably impacted.
- b. Protective/Mitigation Measures: No protective or mitigation measures are required.

#### **Public health and safety:**

The proposed action is not expected to result in significant impacts to air quality, water quality, sedimentation, hazardous materials, and other factors contributing to public

health and safety. Mitigation has been provided in the proposed action to further prevent these factors from affecting public health and safety. In addition, physical safety is addressed during the mining operations through administrative and engineered controls outlined within this EA and associated requirements from other agencies.

#### Unique characteristics of the geographic area:

Yes, the location for the modification is located in the Arkansas Canyonlands Area of Environmental Concern.

#### Degree to which effects are likely to be highly controversial:

The potential for controversy associated with the effects of the proposed action on resource values is low. There is no disagreement or controversy among ID team members or reviewers over the nature of the effects on the resource values on public land by the proposed action.

#### Degree to which effects are highly uncertain or involve unique or unknown risks:

Mining has occurred in this area throughout history and although the potential risks involved can be controversial, they are neither unique nor unknown. The proposed operation consists of industry standard practices, resulting in impacts that would normally be expected from an activity being accomplished in compliance with current standards and regulations and based on sound practices. There is low potential of unknown or unique risks associated with this project due to the nature of the proposed operation and similar mining activity that has occurred in the area.

# Consideration of whether the action may establish a precedent for future actions with significant impacts:

There are no aspects of the current proposal that are precedent setting and implementation of the proposed action will be in accordance with standard practices, federal laws and regulations and the Resource Management Plan that are consistent with other allowable operations involving BLM managed surface.

# Consideration of whether the action is related to other actions with cumulatively significant impacts:

- 1. At the larger watershed scale along the Arkansas River, the Proposed Action would add an additional 0.6 acres of disturbance spread out over several years. Along the river there are many other existing soil disturbances such as highways, recreation sites, and home sites. The addition of this disturbance with mitigation would not appreciably add to the overall area.
- 2. Recent interest in both recreational mineral specimen collection and mining activity under the Mining Law has increased on the Arkansas River creating additional disturbances to obligate riparian wildlife species and stream-banks. Activities proposed here are cumulative to those other disturbances and activities, such as fishing, park development and rafting activities, along the Arkansas River corridor.
- 3. Cumulative impacts may result if additional mining operations are approved within the ACEC. Although, these impacts would be mitigated once reclamation is complete.

# Scientific, cultural or historical resources, including those listed in or eligible for listing in the National Register of Historic Places:

Two cultural resources inventories in the area of potential effect located no historic properties (see Reports CR-RG-01-39 P and CR-RG-14-124 N). Therefore, no additional work is required.

No possible traditional cultural properties were located during the cultural resources inventory (see above). There is no other known evidence that suggests the project area holds special significance for Native Americans.

#### Threatened and endangered species and their critical habitat:

Peregrine and Golden Eagles nest within the Royal Gorge and Bighorn Sheep Canyon and Bald Eagles use the river corridor in the winter; however, no known nest sites are located within two miles of the project area; therefore, impacts to these species is expected to be minimal.

# Any effects that threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment:

The proposed action conforms with the provisions of NEPA (U.S.C. 4321-4346) and FLPMA (43 U.S.C. 1701 et seq.) and is compliant with the Clean Water Act and The Clean Air Act, the National Historic Preservation Act, Migratory Bird Treaty Act (MBTA) and the Endangered Species Act.

NAME OF PREPARER: Stephanie S. Carter

SUPERVISORY REVIEW: Jay Raiford

NAME OF ENVIRONMENTAL COORDINATOR: /s/ Martin Weimer

DATE: 6/9/15

SIGNATURE OF AUTHORIZED OFFICIAL: /s/ Keith E. Berger

Keith E. Berger, Field Manager

DATE SIGNED: 7/9/15

**APPENDICES**:

ATTACHMENTS:

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ROYAL GORGE FIELD OFFICE

#### **DECISION RECORD**

# El Rancho Bondo Placer Mining Plan of Operations Modification DOI-BLM-CO-200-2014-0001-EA

<u>DECISION</u>: It is my decision to accept the Proposed Action as described in the attached EA. The selected alternative meets the requirements of the regulations to prevent undue or unnecessary degradation and is in conformance with the applicable land use plan(s). Upon BLM's approval of the Plan of Operations and concurrence with the proposed occupancy, the operator intends to implement the modifications into current operations.

The modifications consist of utilizing a small tractor for mining and reclamation activities, operating on a year-round basis and extending the mining area to the west. Total mine disturbance will not exceed 0.6 acres and reclamation will be concurrently implemented as mining progresses. The period of operation is anticipated to end in January 2025.

The primary mechanisms used by the BLM to initially identify issues were met by posting this project on the Royal Gorge Field Office NEPA website and submitting a public notice to the local Canon City Daily Record and Mountain Mail papers.

This office completed an Environmental Assessment and reached a Finding of No Significant Impact, indicating that the selected alternative will have no significant effect therefore an EIS is not required.

<u>RATIONALE</u>: The proposed action involves modifications to existing mining operations for federal minerals. The minerals associated with this subject area are open to the Mining Law of 1872 and under claim by the Operator. The mining operations proposed are located in a historic mining area. A determination that the proposed action will not have a significant effect on the quality of the human environment and that undue or unnecessary degradation will be prevented is the basis for this rationale.

#### **MONITORING AND COMPLIANCE:**

- 1. Final reclamation performance expectations for the established vegetation will be based on an optimum ground cover of 40% for the suggested native seed mixture.
- 2. On any final slopes that are greater than 3:1, excelsior matting is suggested to be installed following the manufacturer's installation instructions to assist with reduction in erosion rates on disturbed soils.
- 3. In order to maintain as much topsoil as possible and in addition to the upgradient Stormwater controls to be installed as described in the Plan of Operations modification, it is suggested that downhill portions of the soil stockpiles have controls installed also, such as straw wattles or silt fencing to prevent soil from leaving the disturbed area.

- 4. The monitoring and mitigation of weeds as described in the Plan of Operations modification should focus on the presence of weeds on the Colorado State Noxious Weed list and other invasives, as listed in the EA.
- 5. All mulch brought on site shall be certified weed free straw mulch. Straw must not be either rye or barley and cannot contain cheat grass seed (Bromus Tectorum seed).
- 6. All seed used shall be certified weed free.
- 7. The recommended see mixture and rate is as follows:

Western Wheatgrass	Pascopyrum smithii	8 lbs/ac
Blue Grama	Bouteloua gracilis	2 lbs/ac
Sideoats Grama	Bouteloua curtipendula	6 lbs/ac
Indian Ricegrass	Achnatherum hymenoides	8 lbs/ac
Sand Dropseed	Sporobolus cryptandrus	2 lbs/ac
Bottlebrush Squirreltail	Elymus elymoides	4 lbs/ac
Columbia Needlegrass	Achnatherum nelsonii spp.	4 lbs/ac
Mountain Mahogany	Cercocarpus montanus	1 lb/ac
Wax Current	Ribes cereum	.5 lb/ac
	Total	35.5 lbs/ac

Must

be noxious weed free and meet certified seed quality. Seed must have a valid seed test within one year of being applied.

- 8. The PoO states plans to plant vegetation in the riparian area as mitigation to offset recently cast material from previous activity. However, if cast material is planned for removal from flood prone areas, the proponent is responsible to coordinate these activities with the ACOE, as applicable.
- 9. If the planned constructed settling basins do not contain all pumped waters allowing it to soak in, then the mine proponent would need to consult with the State of Colorado as to the possible need for a NPDES discharge permit.
- 10. To be in compliance with the Migratory Bird Treaty Act (MBTA) and the Memorandum of Understanding between BLM and USFWS required by Executive Order 13186, BLM must avoid actions, where possible, that result in a "take" of migratory birds. Pursuant to BLM Instruction Memorandum 2008-050, to reduce impacts to Birds of Conservation Concern (BCC), no habitat disturbance (removal of vegetation such as timber, brush, or grass) is recommended during the periods of May 15 July 15, the breeding and brood rearing season for most Colorado migratory birds. This recommendation will not apply to completion activities in disturbed areas that were initiated prior to May 15 and continue into the 60-day period. We suggest a pre-treatment survey when possible during the May15-July 15 time frame and including best management practices if necessary.

An exception to this timing limitation will be granted if nesting surveys conducted no more than one week prior to vegetation-disturbing activities indicate no nesting within 30 meters (100 feet) of the area to be disturbed. Surveys shall be conducted by a qualified breeding bird surveyor between sunrise and 10:00 a.m. under favorable conditions.

<u>PROTEST/APPEALS</u>: This decision shall take effect immediately upon the date it is signed by the Authorized Officer, and shall remain in effect while any appeal is pending unless the Interior Board of Land Appeals issues a stay (43 CFR 2801.10(b)). Any appeal of this decision must

follow the procedures set forth in 43 CFR Part 4. Within 30 days of the decision, a notice of appeal must be filed in the office of the Authorized Officer at the Royal Gorge Field Office, 3028 East Main Street, Canon City, Colorado 81212. If a statement of reasons for the appeal is not included with the notice, it must be filed with the Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with the Authorized Officer.

SIGNATURE OF AUTHORIZED OFFICIAL: /s/ Keith E. Berger
Keith E. Berger, Field Manager

DATE SIGNED: 7/9/15